

89948

S/126/61/011/001/016/019  
E032/E314

9.4300 (1043, 1143, 1158)

AUTHORS: Zavadskiy, E.A. and Fakidov, I.G.

TITLE: Measurement of the Hall Effect of n-Ge in Strong Pulsed Magnetic Fields

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol. 11, No. 1, pp. 147 - 149

TEXT: This paper is a continuation of the previous paper in this issue (pp. 145 - 147). In earlier papers the authors showed that at sufficiently low temperatures (60-90 °K) the effect of the quantisation of energy of current carriers on the electrical conductivity becomes appreciable for magnetic fields of 50-100 kOe. The aim of the present paper was to elucidate the effect of this quantisation on the Hall constant. Plates (9 x 1.5 x 0.8 mm) cut from n-Ge with  $\rho = 2, 8.5$  and 30 ohm.cm at room temperature were employed. The Hall e.m.f. was exhibited directly on a CRO screen as a function of the magnetic field. The measurements were carried out for different current directions through the specimen and different magnetic-field

Card 1/5

89948

S/126/61/011/001/016/019  
E032/E314

Measurement of the Hall Effect of n-Ge ....

directions. In the temperature range 58 to 310 °K fields up to 200 kOe were used. In addition, the Hall effect was measured at 77 °K in fields up to 450-500 kOe but the Hall constant was found to be independent of the magnetic field. The quantisation of the energy of the carriers in a magnetic field becomes effective for  $hw > kT$  where  $w$  is the cyclotron frequency and  $h$  is the Planck constant divided by  $2\pi$ . Assuming that the mean value of the effective mass of the carriers is  $m^* = 0.12 m_0$ , one finds that with  $T = 77$  °K the condition  $hw = kT$  is already satisfied at  $H = 69$  kOe and, consequently, at  $H = 500$  kOe and  $T = 77$  °K one finds that  $hw = 7 kT$ . The absence of the field dependence of the Hall constant in this case is in disagreement with the predictions of Klinger and Voronyuk (Ref. 3) but is in agreement with the results of Argyres (Ref. 5). Fig. 1 shows the dependence of the Hall e.m.f. (V) on the magnetic field (kOe) for an n-Ge specimen

Card 2/5

89948

S/126/61/011/001/016/019  
E032/E314

Measurement of the Hall Effect of n-Ge .....

with  $\rho = 30 \text{ ohm.cm}$  at  $T = 20^\circ \text{K}$  (Curve 1 corresponds to a current density of  $7.5 \text{ mA/mm}^2$ , Curve 2 to  $2.5 \text{ mA/mm}^2$ ). The specimen for which Curve 1 was obtained was previously used in measurements of the resistivity and a consideration of the data obtained for it shows that in the region where the Hall constant is variable Ohm's law ceases to hold. This is confirmed by the second curve (Curve 2). Curve 1 was used to calculate the current carrier concentration as a function of the magnetic field and this is shown in Fig. 2. As can be seen from Fig. 2, different values of the current density correspond to different values of the magnetic field at which the change in the carrier concentration begins; thus, the observed changes in the carrier concentration are closely associated with departures from Ohm's law. In the specimen with  $\rho = 30 \text{ ohm.cm}$  at  $T = 20^\circ \text{K}$  scattering on impurity ions is still very small. Further work is being carried out on

Card 3/5

89948

S/126/61/011/001/016/019  
E032/E314

Measurement of the Hall Effect of n-Ge ....

the Hall effect using specimens with considerably lower resistivities. There are 2 figures and 5 references: 3 Soviet and 2 non-Soviet.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AS USSR)

SUBMITTED: July 20, 1960

Card 4/5

89948

S/126/61/011/001/016/019  
E032/E314

Measurement of the Hall Effect on n-Ge ....

Fig. 1:

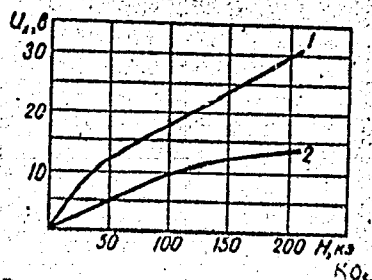


Рис. 1. Зависимость напряжения Холла от напряженности магнитного поля для образца n-Ge с  $\rho = 30$  ом-см при  $T = 20^\circ \text{K}$ .  
Кривая 1 соответствует плотности тока 7.5 ма/мм², а кривая 2 — 2.5 ма/мм².

Fig. 2:

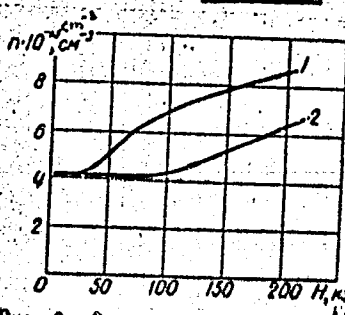


Рис. 2. Зависимость концентрации носителей тока от напряженности магнитного поля.

Card 5/5

24.2200 1144  
18.8100 1418 1413 4016

33451  
S/126/61/012/006/005/023  
E073/E535

AUTHORS: Zavadskiy, E.A. and Fakidov, I.G.

TITLE: Magnetization of the intermetallic compound  $\text{MnAu}_2$  in super-high pulsed magnetic fields

PERIODICAL: Fizika metallov i metallovedeniye, v.12, no.6, 1961, 832-837

TEXT: The measurements of A. J. Meyer and P. J. Taglang (Ref.2: J.Phys.Rad., 1956, 17, 457) revealed the existence of a threshold field and enabled investigation of the initial section of the approximation to saturation. By extrapolation, the saturation magnetization for several temperatures was calculated. Extrapolation to absolute zero enabled determining the magnetic moment per atom of manganese, which proved equal to 3.49 Bohr magnetons. Obviously these results are very approximate, since the ranges of the magnetic fields (up to 28 kOe) and temperatures were not wide enough. Therefore, the authors investigated the magnetization of a polycrystalline  $\text{MnAu}_2$  specimen in the temperature range 77 to 418°K in pulsed magnetic fields of up to 300 kOe. At room temperature the field could be increased to

Card 1/4

Magnetization of the ...

33451

S/126/61/012/006/005/023  
E073/E535

500 kOe. The  $\text{MnAu}_2$  compound was produced by fusing electrolytically purified manganese (99.98%) with 99.99% gold in an evacuated quartz ampoule at the temperature of  $1100^\circ\text{C}$ . The alloy was air-quenched and then annealed for two hours at  $900^\circ\text{C}$  followed by quenching in oil, annealing for 72 hours at  $690^\circ\text{C}$  followed by quenching in oil. After carrying out the magnetic measurements, the specimens  $1.2 \times 0.8 \times 10$  mm were again annealed at  $690^\circ\text{C}$  and the measurements were repeated. The reproducibility proved to be satisfactory. It was found from magnetization curves plotted on the basis of numerous oscillograms that these curves contained three characteristic sections at temperatures below the Neel point ( $368^\circ\text{K}$  in the given case):

1.  $H < 10$  kOe in which the susceptibility does not depend on the field strength and the alloy has an antiferromagnetic behaviour;
2.  $H > 30$  kOe when the behaviour of the alloy is ferromagnetic;
3. Fields intermediate between the above two values in which the alloy has transient properties.

The investigated specimen had a density of  $14.3 \text{ g/cm}^3$ , the magnetic moment per manganese atom was  $3.38 \mu_B$ , which is very near to the

Card 2/4

33451

Magnetization of the ...

S/126/51/012/006/005/023  
E073/E535

respective value in ferromagnetic alloys and also very near to the value of  $5.49 \mu_B$  obtained by Meyer and Taglang. The temperature dependence of the saturation magnetization can be expressed satisfactorily by the equation

$$I_{\infty, T} = I_{\infty, 0} (1 - \beta T^2),$$

where

$$I_{\infty, 0} = 595 \text{ gauss and } \beta = 3.3 \cdot 10^{-6}$$

Meyer and Taglang also determined the saturation magnetization and its temperature dependence in fields up to 28 kOe. They assumed that the approximation to saturation would obey the square value law in all field intensities. The measurements described in this paper showed that the square value law is complied with at fields up to 35-40 kOe at a temperature  $T = 290^\circ\text{K}$  but only up to 37 kOe at  $T = 77^\circ\text{K}$ . Extrapolated values of  $I$ , gauss vs.  $1/H^2$  based on the square value approximation are considerably lower than those measured. The authors express the view that the behaviour in the paramagnetic range can be explained by introducing

Card 3/4



33451

Magnetization of the ...

S/126/61/012/006/005/023  
E073/E535

an "effective" field composed of the external and the molecular fields. The applied magnetic fields were not high enough for unequivocal solution of the problem of the influence of the temperature on the coefficient of the molecular field. The paramagnetic measurements in stronger fields will be continued for the purpose of elucidating the influence of temperature on the molecular field and the magnetic moment of saturation in the paramagnetic state. There are 5 figures and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The English-language references read as follows: Ref. 2: quoted in text; Ref. 3: Asch G. J. Phys. Rad., 1959, 20, 349.

ASSOCIATION: Institut fiziki metallov AN SSSR  
(Institute of Physics of Metals AS USSR)

SUBMITTED: April 3, 1961

Card 4/4

ZAVADSKIY, E.A.; FAKIDOV, I.G.

Conductance of germanium in high pulsed magnetic fields in the  
region of mixed conductivity. Fiz.tver.tela 4 no.7:1704-1709  
Jl '62. (MIRA 16:6)

1. Institut fiziki metallov AN SSSR, Sverdlovsk.  
(Germanium--Electric properties) (Magnetic fields)

14506  
S/181/65/005/001/030/064  
B102/B186

24.2600  
AUTHORS:

Zavadskiy, E. A., Kovrizhnykh, Yu. T., and Fakidov, I. G.

TITLE:

Negative photoconductivity of germanium in a magnetic field

PERIODICAL:

Fizika tverdogo tela, v. 5, no. 1, 1963, 194 - 200

TEXT: The germanium photoconductivity was measured in the constant field of an electromagnet as well as in an alternating field with a damping decrement of 4.0 and a frequency of 3 kc. In order to avoid intense quantum effects of the carriers, measurements at 20°K were made in fields of up to 14 koe, at 77°K up to 60 koe and at room temperature up to 200 koe. The samples were illuminated by a single pulse from an ИФК-120 (IFK-120) gas-discharge lamp. Photoconductivity was measured as described by E. A. Zavadskiy and I. G. Fakidov (FTT, 4, 1704, 1962). With three n-type samples and one p-type the following characteristics were measured:  $\Delta\sigma_H/\sigma_H = f(H)$  at 77°K and at  $H/H_c = 18.3, 10.6, 5.0$  and  $2.0$ ;  $\Delta\sigma_H/\sigma_H = f(H/H_c)$  at 20°K and at  $H = 0, 1.65, 3.5, 6.7, 12.4$  and  $14.4$  koe;

Card 1/2

Negative photoconductivity ...

S/181/63/005/001/030/064  
B102/B186

$\Delta\sigma_H/\sigma_H = f(1/H^2)$  at 77°K and at  $\rho_T/\rho_C = 4.9, 1.25, 1.4$  and  $1.7$ ;  $(\Delta\sigma_H/\sigma_H)_\infty = f(\rho_T/\rho_C)$  at 77°K for an n-type and a p-type sample;  $(\Delta p/n)_0 = f(H^2)$  at 58 and 77°K.  $\sigma_H$  denotes the conductivity without illumination,  $\rho_T$  and  $\rho_C$  are the resistivities without and with illumination at  $H = 0$ ;  $(\Delta\sigma_H/\sigma_H)_\infty$  gives the saturation value (extrapolated to  $H = \infty$ );  $(\Delta p/n)_0$  gives the position of the injection level. The results, showing that at high magnetic field strengths the photoconductivity is negative, are in good quantitative agreement with theory (Madelung, Z. Naturf., 8a, 791, 1953). The results correspond to impurity conductivity. For samples with mixed dark conductivity, negative photoconductivity can be observed only at higher field strengths. There are 6 figures and 1 table.

ASSOCIATION: Institut fiziki metallov AN SSSR, Sverdlovsk (Institute of the Physics of Metals AS USSR, Sverdlovsk)

SUBMITTED: July 26, 1962

Card. 2/2

FOKINA, Ye.A.; ZAVADSKIY, E.A.

Effect of magnetic fields on martensite transformation in steel.  
Fiz. met. i metalloved. 16 no.2:311-313 Ag '63. (MIRA 16:8)

1. Institut fiziki metallov AN SSSR.  
(Steel--Metallography)  
(Magnetic fields)

ZAVADSKIY, E.A.; KOVRIZHNYKH, Yu.T.; FAKIDOV, I.G.

Photogalvanomagnetic effects in germanium in high magnetic fields.  
Fiz. tver. tela 6 no.1:173-181 ja '64. (MIRA 17:2)

1. Institut fiziki metallov AN SSSR, Sverdlovsk i Sverdlovskiy gosudarstvennyy pedagogicheskiy institut.

L 14991-66 EWT(1)/EWT(2)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD

ACC NR: AP5028570 (N)

SOURCE CODE: UR/0126/65/020/005/0793/0795

AUTHOR: Voronchikhin, L. D.; Zavadskiy, E. A.; Fakidov, I. G.

ORG: Institute of Physics of Metals AN SSSR (Institut fiziki metallov AN SSSR) 71

TITLE: Superparamagnetism in austenitic steels 4,44,55

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 5, 1965, 793-795

TOPIC TAGS: austenitic steel, paramagnetism, magnetization, magnetic field, magnetic moment, metal physical property, metal physics

ABSTRACT: Superparamagnetism was studied in 40Kh2N20 and 50Kh2N22 austenitic steels in order to determine the average magnetic moments and dimensions of the local ferromagnetic ordering regions (clusters). Magnetization curves are given both for constant magnetic fields and strongly changing ones. Sample dimensions were 1 mm (diameter) and 10 mm (length). The data showed that the experimental portions of the magnetization curves, corresponding to the values of the fields causing martensitic transformation in these steels, can be described by the Langevin function 16

UDC: 669.15 : 538.22

Card 1/3

I. 14991-66

ACC NR: AP5028570

$$\frac{T}{T_m} = \frac{\bar{\sigma}}{\sigma_m} = L\left(\frac{MH}{kT}\right), \quad (1)$$

where  $k$  is Boltzman's constant,  $T$  is the absolute temperature,  $M$  is magnetic moment of the superparamagnetic particle and  $I_m$  is saturation magnetization of the sample. Satisfactory agreement of the experimental and calculated curves exhibit the utility of equation (1) for calculating the magnetic moments of particles. Two boundary cases were considered, corresponding to the conditions when  $MH/kT \ll 1$  (weak field) and  $MH/kT \gg 1$  (strong field). Equation (1) for the case when  $MH/kT \ll 1$  reduces to

$$T_m = \frac{NM^2}{3k} \frac{H}{T},$$

where  $N$  is the number of particles per  $\text{cm}^3$ ; for the case when  $MH/kT \gg 1$ , the following was applicable:

$$\frac{T}{T_m} = \frac{\bar{\sigma}}{\sigma_m} = 1 - \frac{kT}{M} \frac{1}{H}.$$

Card 2/3



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ACC NR: AP5028570

The average dimensions of the particles were calculated to be  $\bar{d} = 10$  angstrom. The conclusions substantiated the authors' hypothesis of the presence of paramagnetism in austenitic steels based on the calculated magnetic moments and the impossibility of attaining saturation even in fields as high as  $150 \cdot 10^3$  oersteds. Orig. art.

SUB CODE: 11,20/

SUBM DATE: 30Jul65/

ORIG REF: 002/

OTH REF: 002

Card 3/3

ZAVADEKIY, D.A.; KOVRIZHNYKH, Yu.T.; FAKIDOV, I.G.

Galvanomagnetic effects in semiconductors with nonuniform  
impurity distribution. Fiz. tver. tela 7 no. 12:3582-3587  
D '65 (MIRA 1961)

1. Institut fiziki metallov AN SSSR, Sverdlovsk.

ACC NR: A16037058

SOURCE CODE: UR/0056/66/051/005/1317/1320

AUTHOR: Zavadskiy, E. A.; Fakidov, I. G.

ORG: Institute of Physics of Metals, Academy of Sciences SSSR (Institut fiziki metallov Akademii nauk SSSR)

TITLE: Magnetic properties of the compound  $Mn_3Ge_2$  in strong magnetic fields

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1317-1320

TOPIC TAGS: manganese compound, germanium compound, magnetic property, magnetization, antiferromagnetism, magnetic moment

ABSTRACT: The purpose of the investigation was to determine the magnetic moment directly from measurements of the magnetization in the state of weak ferromagnetism. The tests were made in fields of intensity up to 300 kOe in the temperature interval from 370 to 77K. The measurements were made on polycrystalline samples using a pulsed magnetic balance and a piezoelectric pickup. The results showed a transition from the antiferromagnetic state to the state of weak ferromagnetism at the first critical point (160K). With increasing field, the transition temperature decreases. In the state of weak ferromagnetism, the dependence of the magnetization on the field is linear up to 50 kOe, after which saturation sets in. From the occurrence of the point of saturation it is found that at  $T > 100K$  the magnetic moment per manganese atom is 1.5 Bohr magnetons, whereas at lower temperatures a strong magnetic field causes

Card 1/2

ACC NR: AP6037058

transition from the antiferromagnetic state into a state with magnetic moment 2.3 Bohr magnetons per manganese atom. The change occurring in the magnetic structure of  $Mn_3Ge_2$  in a strong magnetic field close to 100K is confirmed also by the temperature dependences of the magnetization and is accompanied by a change in the transition entropy by a factor 2.4. The authors thank V. N. Novogrudskiy for supplying the samples and N. I. Kuntsevich for help with the measurements. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 02Jun66/ ORIG. REF: 007/ OTH REF: 002

Card 2/2

2 AVADSKIY, E.D.

USSR/Human and Animal Physiology - Physiology of Labor and Sports.

V-10

Abs Jour : Ref Zhur - Biol., No 4, 1958, 18/23  
Author : I.S. Kharshat, and E.D. Zavvadekiy  
Inst : The Kiev Institute of Physical Culture.  
Title : The Effect of Rarefied Air on Certain Physiological Characteristics in Young Wrestlers.  
Orig Pub : Tr. Kiyevsk. in-ta fiz. kul'tury, 1957, 2, 13-17  
Abstract : No abstract.

Card 1/1

ZAVADSKIY, E.R.

Roadside planting in Transcarpathia. Avt.dor. 20 no.7:32 J1 '57.  
(MIRA 10:10)  
(Transcarpathia---Roadside improvement)

L 13600-66 ENT(m)

ACC NR: AP6001016

(A)

SOURCE CODE: UR/0286/65/000/022/001/001

AUTHORS: Isidorov, V. V.; Akunov, V. I.; Dubinskiy, M. G.; Zayatskiy, I. I.;  
 Dubinsky, Yu. T.; Yur'ev, S. V.; Mikhlin, G. I.; Hrynya, N. I.; Pirogov, A. I.;  
 Rybin, V. R.; Sirochenko, L. M.; Dominskiy, D. S.; Titov, P. P.; Khalov, G. G.;  
 Shchevel', A. S.; Zavgorodniy, N. S.

ORG: none

38 15.44

TITLE: A reactor for combined pulverizing and burning of a material, such as cement, in a high temperature gas stream. Class 80, No. 115469

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 101

TOPIC TAGS: cement, thermal reactor

ABSTRACT: This Author Certificate presents a reactor for combined pulverizing and burning of a material, such as cement, in a high temperature gas stream. To provide automatic regulation of the burning and calcification time for the material in the reactor, the latter is made in the form of a lenticular chamber, the peripheral circle of which is located in a horizontal plane and the peripheral circle of the lenticular chamber and at an angle to its radii. An opening in the center of the chamber bottom is used to discharge the finished burned product.

SUB CODE: 18,13/

SUBM DATE: 24May61

Card 1/1

SHERSHOV, Sergey Fedorovich, dotsent, kand.tekhn.nauk; PRUZNER, Saul  
L'vovich, dotsent, kand.tekhn.nauk; ZAVADSKIY, Iyan Milchaylovich,  
dotsent; MELIDOV, I.Ye., red.; BORUMOV, N.I., tekhn.red.

[Economics and organization of power production] Ekonomika i  
organizatsiia energeticheskogo proizvodstva. Pod obshchei red.  
S.F.Shershova. Moskva, Gos.energ.izd-vo, 1959. 463 p.

(MIRA 13:2)

(Power engineering)



ZAVADSKIY, I. M.

(Dotsent, Moscow Power Inst.)

"Dynamics of the Main Economic Indices of Power Economy."  
report presented at the All-Union Sci. Technical Conference on Economy of Fuel  
and Electric Power in the Engineering Industry, December 1957, Moscow.

Promyshlennaya Energetika, 1958, vol. 13, No. 3, pp. 33-35  
(see author card for GORIN, F. I.)

ZLATOPOL'SKIY, A.N.; ZAVADSKIY, I.M.; PRUZNER, S.L.

"Effective use of secondary power resources" by N.M.  
Vilenskii. Reviewed by A.N.Zlatopol'skii, I.M.Zavadskii,  
S.L.Pruzner. Prom.energ. 19 no. 4:60-61 Ap '64. (MIRA 17:5)

ZAVADSKIY, I.M.

Methods and practice for calculating the cost of steam produced  
by reclamation boilers. Nauch.dokl.vys.shkoly; energ. no.3:121-  
125 '58. (MIRA 12:1)

1. Rekomendovano kafedroy ekonomiki energetiki Moskovskogo  
energeticheskogo instituta.  
(Boilers)

ZAVADZKIY, K.

POLAND/Cultivated Plants - Technical. Oleaginous. Sugar-Bearing. L-5

Abs Jour : Ref Zhur - Biologiya, No 16, 25 Aug 1957, 69336

Author : Zavadzkiy, K.

Inst :

Title : The Content of Citric Acid in Tobacco and Makhorka.

Orig Pub : Acta agrobot., 1956, 4, 3-11

Abst : Analyses of different specimens of tobacco and makhorka cultivated in Poland have shown that the largest quantity of citric acid is accumulated in makhorka and the smallest in tobacco. As the plant grows and develops, the rate of citric acid accumulation increases. As the quality of cigarette tobaccos worsens, the content of citric acid increases and the quantity of nicotine decreases.

Card 1/1

ZAVADSKIY, I.S.

ORLOV, V.P., kand.sel'skokhoz.nauk. Prinimali uchastiye: AVROV, N.N.;  
BASENKO, P.V.; VARLAMOV, D.A.; VASIL'YEV, I.I.; VLASOV, V.N.;  
VILEGZHANINA, V.A.; ZHIVET'YEV, V.G.; ZAVADSKIY, I.S.; ZALESSEKIY,  
Ye.Ya.; ZAKORYUKIN, D.S.; ISHCHENKO, I.N.; KACHIBAYA, I.D.; KISE-  
LEV, Ye.S.; KOZHEVNIKOV, I.Z.; LISITSYN, V.I.; MESHCHERYAKOV, V.F.;  
NYURIN-VERTSBERG, R.L.; PEREPELITSA, V.M.; RYABKOV, A.D.; SEURIKHIN,  
I.P.; SOLOV'YEV, N.A.; YAS'KO, N.G.. GREBTSOV, P.P., red.; ZUBRILINA,  
Z.P., tekhn.red.

[Our farms in 1965] Nashi khoziaistva v 1965 godu. Moskva, Gos.  
izd-vo sel'khoz.lit-ry, 1959. 230 p. (MIRA 13:2)  
(Agriculture)

LANGUROV, I.Z., kand. tekhn.nauk; ZAVADSKIY, K.I., inzh.; GALLE, A.G., inzh., retsenzent; KRICH, B.V., inzh., retsenzent; PANKOV, A.M., inzh., retsenzent; SHISHLYKOV, Ye.S., inzh., red.; USENKO, L.A., tekhn. red.

[Organization of the transportation of bulk liquid cargo]  
Organizatsiia perevozok naliveykh gruzov. Moskva, Transzhel-  
dorizdat, 1963. 269 p. (MIRA 16:4)  
(Tank cars) (Railroads--Freight)

ZAVADSKIY, K.I., inzh.

What are the advantages of the specialization of tank cars?

Zhel. dor. transp. 46 no.10:25-26 O '64.

(MIRA 17:11)

ZAVADSKIY, K.A.

Growth (Plants)

Significance of OB Lepeshinskay's ideas for the problems in plant development. Vest. Len.un.  
6 No. 11, 1951

Monthly List of Russian Accessions. Library of Congress, September, 1952 Unclassified



1. ZAVADSKIY K.M.
2. USSR (600)
4. Species, Origin of
7. Progressive importance of the views of V.L. Komarov on the reality and completeness of species, Vest.Len un. 7 no.4, 1952.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, uncass.

ZAVADSKIY, K.M.

V.I. Lenin on the demand for "diversity" in research and some violations  
of this demand in biology. Vest.Len.un.9 no.1:3-20 Ja '54. (MLRA 9:7)  
(Biology)

ZAVADSKIY, K.M.

Conception of the transition of "old" inherited traits to "new".  
Vest. Len. un. 9 no.4:3-16 Ap. '54. (MIRA 8:6)  
(Transmutation of plants)

ZAVADSKIY, K.M., dotsent, rukovoditel' seminara.

Some problems in the theory and the formation of species. Vest.  
Len.un. 9 no.10:3-15 0 '54. (MLRA 8:7)

1. Zavednyushchiy kafedroy darvinizma  
(Origin of species)

ZAVADSKIY, K. M.

SHISHKIN, B. K., professor; ROMANKOVA, A. G., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; MARKOV, G. S., doktor biologicheskikh nauk dotsent; DANILEVSKIY, A. S., Kandidat biologicheskikh nauk, dotsent; SHTEYNBERG, D. M., doktor biologicheskikh nauk; LOMAGIN, A. G. aspirant; SELL'-BEKMAN, I. Y., mladshiy nauchnyy sotrudnik; ZHINKIN, L. N., doktor biologicheskikh nauk, professor; IFATOV, V. S., student V kursa; KOZLOV, V. Ye., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; KARTASHEV, A. I. kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; NITSENKO, A. A. STARSHIY Nauchnyy sotrudnik; VASILEVSKAYA, V. K., doktor biologicheskikh nauk, dotsent; RYUMIN, A. V., kandidat biologicheskikh nauk; NAUMOV, D. V., Kandidat biologicheskikh nauk, mladshiy nauchnyy sotrudnik; KHOZATSKIY, L. I. kandidat biologicheskikh nauk, dotsent; GOROBETS, A. M., kandidat biologicheskikh nauk, starshiy nauchnyy sotrudnik; GODLEVSKIY, V. S., assistant; GERBIL'SKIY, N. L., doktor biologicheskikh nauk, professor; Aleksandrov, a. d., professor; KOLODYAZHNIY, V. I.; TURBIN, N. V.; ZAVADSKIY, K. M.

[Theory of species and the formation of species]. Vest. Len un. 9 no. 10:43-92 0 '54. (MLRA 8:7)

1. Chlen-korrespondent Akademii nauk SSSR (for Shishkin, Aleksandrov)

(Continued on next card)

SHISHKIN, B.K., professor; ROMANKOVA, A. G., Kandidat biologicheskikh nauk, starshiy naychnyy sotrudnik, and others.

[Theory of species and the formation of species]. Vest. Len. un. 9 no. 10:43-92 0 '54. (MLRA 8:7)

2. Leningradskiy gosudarstvennyy universitet (for Shishkin, Romankova, Markov, Ipatov, Kozlov, Kartashev, Godlevskiy, Gerbil'skiy, Aleksandrov)
3. Zoologicheskii institut Akademii nauk SSSR (for Shteynbetg, Naumov)
4. Kafedra entomologii Leningradskogo gosudarstvennogo universiteta (for Danilevskiy). 5. Kafedra darvinizma Leningradskogo gosudarstvennogo universiteta (for Lomagin, Gorobets). 6. Kafedra geobotaniki Leningradskogo gosudarstvennogo universiteta (for Mitsenko). 7. Kafedra botaniki Leningradskogo gosudarstvennogo universiteta (for Vasilevskaya). 8. Kafedra zoologii pozvonochnykh Leningradskogo gosudarstvennogo universiteta (for Khozatskiy). 9. Leningradskoye otdeleniye Vsesoyuznogo instituta udobreniy, agropochvovedeniya i agrotekhniki (for Sell'-Bekman)
10. Institut eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR (for Zhinkin)

(Origin of species)

ZAVADSKIY, K.M.

Causes of the dying cut of plants in hill plantings of varying density in relation to sizes of hills and conditions of mineral fertilizing. Bot.zhur. 39 no.4:515-544 JI-Ag '54. (MLRA 7:10)

1. Leningradskiy Gosudarstvennyy universitet im. A.A.Zhdanova.  
(Field crops) (Growth (Plants))

ZAVADSKIY, K. [M]

Letter to the editor of "Botanicheskii zhurnal." Bot.zhur. 39 no.4:  
635 J1-Ag '54. (MIRA 7:10)  
(Cells) (Botany--Physiology)



ZAVADSKIY, K.M.

Scientific legacy of I.V.Michurin and some problems of biology.  
Bot.shur.41 no.1:3-22 Ja '56. (MIRA 9:6)

1.Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.  
(Michurin, Ivan Vladimirovich, 1855-1935)

ZAVADSKIY, K.M.

Overpopulation and its role in evolution. Bot.zhur. 42 no.3:426-449  
Mr '57. (MIRA 10:5)

(Evolution) (Plants, Space arrangement of)

ZAVADSKIY, K.M.

Object and problems of modern Darwinism. Bot.zhur. 42 no.4:583-595  
Ap '57. (MLRA 10:5)

(Evolution)

ZAVADSKIY, K.M.

Category: USSR/General Biology. Evolution.

B-7

Abs Jour: Referat Zh.-Biol., No 6, 25 March 1957, 21001

Author : Zavadskiy, K.M.

Inst : not given

Title : Some problems concerning the theory of species and origin of species.

Orig Pub: Vestn. Leningr. un-ta, 1954, No 10, 3-15

Abstract: It is pointed out that it is insufficient to study species only from the morphological-geographical point of view. A full characterization of species, in the author's view, must include 10 factors (organization, quantity, reproduction, discreteness, expansion, life niche, historicity, stability, diversity, completeness). The author believes that T.D. Lysenko and his followers base themselves on a simplified concept of species. From this follow their basic errors, particularly, the identification of individual variability with the historical process

Card : 1/2

-1-

Category: USSR/General Biology. Evolution.

B-7

Abs Jour: Referat Zh.-Biol., No 6, 25 March 1957, 21601

of origin of species. It is emphasized that attempts to explain the supposedly observed transformation of specimens of one species into another proved worthless. Ordinarily, it is not taken into account that the species indices are closely interrelated and present a single totality. The formula of assimilation of life conditions by the organism does not explain how complicated adaptations could arise as a result of sudden changes. It is noted that the assertion that the concept of species and origin of species supposedly had a great national economic significance proved to be unfounded. The discussion brought out that the problem of methods in proving the new theory of origin of species by their adherents was underestimated and showed incorrect methods in their struggle with representatives of other points of view.

Card : 2/2

-2-

~~ZAVADSKIY, K.M.~~

ZAVADSKIY, K.M.

Differentiation of species in higher plants [with summary in  
English]. Vest. LGU 12 no.21:18-44 '57. (MIRA 10:12)  
(Botany--Variation)

*Zavadskiy, K.M.*

USSR / General Biology. Evolution

B-7

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 356

Author : Zavadskiy, K.M.

Inst : Not Given

Title : Subject and Problems of Contemporary Darwinism. A Discussion

Orig Pub : Botan. zh., 1957, 42, No 4, 583-595

Abstract : Darwinism (D) in a narrow sense is a doctrine by Ch. Darwin of evolution based on natural selection; in a broad sense it is a science of general laws governing historical development of living nature. As new progress was created in the field of biology (evolutionary morphology, ecology, genetics and others) the subject matter of D was changed. Contemporary D is a direct continuation and natural development of Darwinian doctrine, but it synthesizes an enormous quantity of new facts and conclusions. The subject of D is the study of natural selection as a single historical process which stems from a base of joint and connected action of all its factors. The

Card : 1/3

USSR / General Biology. Evolution

B-7

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 356

basic problem consists of correct understanding of the correlation of single evolutionary factors. A brief characterization of the struggle for D is given, and its corroboration in all branches of biology, among them in genetics. The author criticizes the terms "contemplative D", "creative D", "Michurin D" which appear in the literature, and points out that Darwin's theory never was contemplative and that authors who declared the birth of "creative D" often departed from D in general. The work of I.V. Michurin is a massive contribution to D development, but it cannot serve as a basis for acknowledging a special science. The general problems facing D are enumerated: the unfolding of experimental study of all links in the process of natural selection; the development of theoretical studies on basic problems of evolution and development of methods on managing the evolutionary process; intensifying criticism of idealistic views and further development of dialectic-materialistic bases of D. A number of concrete problems of D are also indicated (on limitation, forms, tempo and direction of natural selection; on interrelation between selection and the direction of hereditary changes, etc.). A reasoned conclusion is arrived at as to the neces-

Card : 2/3



USSR / General Biology. Evolution

B-7

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 356

sity of existence and further development of D as a special science on general laws of evolution, which is of great significance in formation of a materialistic view of the world.

Card : 3/3

ZAVADSKIY, K. M.; GOROBETS, A. M.; KHOD'KOV, L. Ye.; KHAKHINA, I. N.

Some results of the study on the populations of higher plants.  
Trudy FPI no.19:17-34 '62. (MIRA 16:1)

1. Laboratoriya evolyutsii populyatsiy Petergofskogo  
biologicheskogo instituta.

(Plant populations)

ZAVADSKIY, K.I.

Work of the Department of Darwinism. Vest LGU 16 no.21:153-  
155 '61. (MIRA 14:11)

(Plants--Evolution)

ZAVADSKIY, Kirill Mikhaylovich; SINSKAYA, Ye.N., doktor biol.nauk, doktor  
sel'khoz. nauk, otv. red; PETROVICHEVA, O.L., red.; VODOLAGINA, S.D.,  
tekh. red.

[Studies on species] Uchenie o vido. Leningrad, Izd-vo Leningr. univ.,  
1961. 253 p. (MIRA 14:12)

(SPECIES)

ZAVADSKIY, K. M.

B-6

USSR / General Biology. Evolution.

Abs Jour: Ref Zhur-Biol., No 18, 1958, 81099.

Author : ~~Zavadsky, K. M.~~

Inst : Not given.

Title : The Problem of Species Differentiation in Higher Plants.

Orig Pub: Vestn. Leningr. un-ta, 1957, No 21, vyp. 4, 18-44.

Abstract: In contemporary literature, different points of view exist on the structure of species (S). Any single representation of the S content, which could be applied to all groups of living organisms, does not exist, and attempts to find such a species "pattern" of a universal significance would lead to great confusion. The author proposed to proceed from the premise

Card 1/5

23

USSR / General Biology. Evolution.

B-6

Abs Jour: Ref Zhur-Biol., No 18, 1958, 81099.

Abstract: that, in reality, S are not equivalent to each other in content and may have a different structure. S is conceived to be a method of organization and a unit of living nature, a breeding community, capable of prolonged self-production and environmental adaptation, capable of independent historical development and of having a good many other basic aspects. Investigations were made, on the basis of which originate the contemporary representation of S in the discovery of the natural character in the variety of individuals within the limits of S; the decomposition of S by X-ray methods into elemental form; the complex study of populations as complete formations. Notwithstanding the recognition of complicated intra-species differentiation, there

Card 2/5

USSR / General Biology. Evolution.

B-

Abs Jour: Ref Zhur-Biol., No 18, 1958, 81099.

Abstract: does not exist as yet a universal system of classification of intra-species units. On the basis of comparison of a series of morphological, geographic and ecologically-genetic systems, a conclusion was arrived that the natural dismemberment of S corresponds more closely to the systems of classification, submitted by Sin-skaya, as well as by Clausen. The indigenous (local) population was acknowledged to be the elementary structural unit of S, and given its identification. The problem of composition and structure of the indineous population was examined. In this connection, opinions were critically analyzed, in accordance with which the smallest structural unit of S is acknowledged to be not the indigenous population, but the

Card 3/5

24

USSR / General Biology. Evolution.

B-6

Abs Jour: Ref Zhur-Biol., No 18, 1958, 81099.

Abstract: ment. The morphobiological groups are reproduced by the population in different ways, and sometimes appear, in a considerable degree, as self-productive units. In complex populations, their structure in the optimum state is safeguarded by three apparatuses: populationally-genetic, individually-physiologic (modificative and inductively-sequential.

Card 5/5

25



POLAND

PO/0096/66/000/004/0315/0320

AUTHOR: Aldova, Eva; Zavadsky, Marian

ORG: Institute of Epidemiology and Microbiology, Prague (Zaklad Epidemiologii i Mikrobiologii)

TITLE: Shigella sensitivity to antibiotics.

SOURCE: Medycyna doswiadczalna i mikrobiologia, no. 4, 1966, 315-320

TOPIC TAGS: antibiotic, sulfonamide, streptomycin, tetracycline, microbiology, epidemiology, Shigella, chloramphenicol, terramycin, antibiotic resistance, sulfonamide resistance

ABSTRACT: A comparison of 476 random-selected Shigella flexneri and sonnei strains, isolated in Czechoslovakia, Hungary, and Poland, showed that they possessed general resistance to the antibiotics chloramphenicol, streptomycin, terramycin, and tetracycline, and to sulfonamides. Of all strains tested and compared only four, while resistant to two antibiotics (one in Czechoslovakia to chloramphenicol and streptomycin, and three in Hungary and Poland to tetracycline and streptomycin), were sensitive to sulfonamides. All remaining strains were sulfonamide-resistant.

ZAYADSEIY, M. A.

Geology

"Oil Well Casing", Gostoptekhnizdat, 1946

Summary No. 60, 26 May '52, BR 52056899

ZAVADSKIY, N. A.

The coal of southern Kazakhstan. Alma-Ata Kazakstanskoe kraevoe  
izd-vo, 1935. 57 p. maps. (50-49917)

TN809.R92K39

ZAVADSKIY, Nikolay Antonovich

[Late consequences and complications of penetrating wounds of the skull and brain] Otdalennye posledstviia i oslozhneniia pronikaiushchikh ranenii cherepa i mozga. Kirov, Kirovskoe knizhnoe izd-vo, 1956. 134 p. (MIRA 13:9)

(BRAIN--WOUNDS AND INJURIES)

ZAVADSKIY, N. A.

Cand. Med. Sci.

Dissertation: "Materials on the Diagnosis of Posttraumatic Abscesses of Brain."

2/2/50

Acad. Med. Sci. USSR

SO Vecheryaya Moskva  
Sum 71

EXCERPTA MEDICA Sec.11 Vol.10/10 Oto-Rhino--  
ZAVADSKY N. B.  
1897. ZAVADSKY N. B. Simferopol. \*A change in the histological

1897

structure of ear polypi caused by X-ray treatment (Russian text) VESTN. OTO-RINO-LARING. 1957, 3 (38-41).  
Observations on 111 cases of chronic suppurative epitympanitis indicate that, along with the generally accepted methods of treatment, local X-ray irradiation is effective. To follow up histological changes in the tissues of the middle ear treated by X-ray irradiation, parts of the polypi in 10 patients were removed from time to time during the treatment. Firstly the oedema of the tissues is marked by increased cellular infiltration and a swelling of the endothelial cells of the vessels with phenomena of fibroid necrosis. Then sclerosis develops. These phenomena depend very little on the dose used.  
(XI, 5, 14, 16)

ZAVADSKIY, N.B.

EXCERPTA MEDICA Sec.14 Vol.11/11 Radiology Nov 57.

1906. ZAVADSKIY N. B. Simferopol. \*A change in the histological structure of ear polypi caused by X-ray treatment (Russian text) VESTN.OTO-RINO-LARING. 1957, 3 (38-41)  
Observations on 111 cases of chronic suppurative epitympanitis indicate that, along with the generally accepted methods of treatment, local X-ray irradiation is effective. To follow up histological changes in the tissues of the middle ear treated by X-ray irradiation, parts of the polypi in 10 patients were removed from time to time during the treatment. Firstly the oedema of the tissues is marked by increased cellular infiltration and a swelling of the endothelial cells of the vessels with phenomena of fibroid necrosis. Then sclerosis develops. These phenomena depend very little on the dose used.

(XI, 5, 14, 16)



ZAVADSKIY, N.P.

Effect of conditions during stockpiling on the thermal behavior  
of the coal pile. Izv.AN Kazakh.SSR.Ser.khim.no.9:130-133 '56.  
(Coal--Storage) (MIRA 9:7)

ALEXSEYEV, Ye.T.; APENCHENKO, S.S.; BASOV, A.P.; BAUSIN, A.F.; BIRSHADSKIY, L.S.;  
VELLER, M.A.; GINZBURG, L.N.; GUSEV, S.A.; DANILOV, G.V.; DOLGIEH, M.S.;  
DRUZHININ, H.N.; YEFIMOV, V.S.; ZAVADSKIY, H.V.; IVASHCHEN, H.V.;  
KARAKIN, F.F.; KUZMAN, G.I.; LOBANOV, S.P.; MERKULOV, Ye.V.; NIKODIMOV,  
P.I.; PANKRATOV, H.S.; PYATAKOV, L.V.; RODICHEV, A.F.; SMIRNOV, M.S.;  
STRUKOV, B.I.; SAVOCHKIN, S.M.; SAMSONOV, H.N.; SINITSYN, H.A.; SKOLOV,  
A.A.; SOLOPOV, S.G.; CHELYSHEV, S.G.; SHCHEPKIN, A.Ye.

Fedor Nikolaevich Krylov; obituary. Torf. prom. 35 no.6:32 '58.

(Krylov, Fedor Nikolaevich, 1903-1958) (MIRA 11:10)

2A VADSKII, N.V.

ZAVADSKIY, N.V.

Histological changes of ear polypi induced by X-ray treatment [with summary in English]. Vest.oto-rin. 19 no.3:38-41 Ky-Je '57.

(MIRA 10:10)

1. Iz kliniki bolezney ukha, gorla i nosa (sav. - prof. A.M.Reynus) Krymskogo meditsinskogo instituta.

(EAR, MIDDLE, neoplasms

polypi, histol. changes after x-ray ther.)

(POLYPI, pathol.

middle ear, histol. changes after x-ray ther.)

USSR/Human and Animal Morphology - Normal and Pathological.  
Sense Organs.

S

Abs Jour : Ref Zhur Biol., No 11, 1958, 50404

Author : Zavadskiy, N.V.  
Inst : ~~USSR Academy of Sciences~~

Title : A Change in the Histological Structure of Ear Polypi  
Caused by X-Ray Treatment

Orig Pub : Vestn. oto-rino-laringologii, 1957, No 3, 38-41

Abstract : Histological changes of ear polypi in 10 patients with chronic purulent epitympanites were studied. 5-7 days after the start of irradiation (total dose by this time was 75-200 r.), an intensification of the edema of connective tissue of the polypus, an increase of cellular infiltration, a swelling of the endothelium of the capillaries, and sometimes disturbance of the structure of the vascular wall with symptoms of fibrinoid necrosis were noted. 25-30 days after irradiation the infiltrations

Card 1/2

ZAVADSKIY, N. V.:

ZAVADSKIY, N. V.: "The use of X-ray irradiation in treating patients with chronic suppurative epitympanitis". Simferopol', 1955. Crimean State Medical Institute imeni Stalin. (Dissertations for the Degree of Candidate of Medical Sciences.)

So. Knizhnaya letopis'. No. 49, 3 December 1955. Moscow.

ZAVADSKIY, V.

USSR (600)

Automobile Drivers

Work practice of Stakhanovite driver I. T. Pavinskii. Sakh. prom. 26 No. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 195~~8~~, Uncl.

2

ZAVADSKIY, V.

USSR (603)

Beets and Beet Sugar - Transportation

Work practice of Stakhanovite driver I.T. Pavineki. Sakh. prom. 26 no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November, 195~~6~~<sup>8</sup>, Uncl.

ZAVADSKIY, V.

Moscow belt-line highway. Za rul. 19 no.11:8-9 H '61.

(MIRA 14:12)

1. Glavnyy inzhener proyekta i stroitel'stva Moskovskoy  
koi'tsevoy avtomobil'noy dorogi.

(Moscow-Express highways)



ZAVADSKIY, V.

Begin with the small. Sov. profsoiuzy 19 no.17:22-23 S '63.  
(MIRA 16:11)

1. Organizator professional'noy gruppy poshivochnogo tsekha  
obuvnoy fabriki No.1, Kiyev.

PATON, B.Ye.; ZAVADSKIY, V.A.

Measuring unit of circuit diagrams with ignitron interrupters, Avtom.svar.  
11 no.12:3-11 D '58. (MIRA 12:1)

1. Ordena Trudovogo Krasnogo Znameni Institut elektorsvarki imeni Ye.O.  
Patona AN USSR.  
(Electric welding) (Voltmeter)

ZAVADSKIY, V.A.

Measurements of the effective values of the current of resistance  
welding machines with ignitron interrupters. Avtom. svar. 17 no.3:  
9-12 Mr '64. (MIRA 17:11)

1. Institut elektrosvaraki im. Ye.O. Patona AN UkrSSR.

ZAVADSKIY, V.A.

Characteristics of the distribution of petroleum in the Volga-  
Ural area. Trudy VNIGRI no.117:222-233 '58. (MIRA 12:4)  
(Volga Valley--Petroleum geology)  
(Ural Mountain region--Petroleum geology)

ZAVADSKIY, V. A.

Subject : USSR/Engineering AID P - 858  
Card 1/1 Pub. 11 - 4/13  
Authors : Paton, B. Ye. and Zavadskiy, V. A.  
Title : The impulse arc ignition considerably lowers the voltage of the welding transformer.  
Periodical : Avtom. svar., #4, 46-52, J1-Ag 1954  
Abstract : The use of impulse ignition is offered for lowering the open-circuit voltage of the welding transformer, connected either in series or parallel with the impulse generator. The welding circuit is adjusted for automatic control of the welding arc. Three circuit diagrams, 9 oscillograms and 3 Russian references (1950-1954).  
Institutions: Institute of Electric Welding im. E. O. Paton Academy of Sciences, Ukrainian SSR  
Submitted : My 10, 1954

PATON, B.Ye.; ZAVADSKIY, V.A.

New diagram for ignitron starting in resistance welding machines.  
Avtom. svar. 11 no.7:48-51 J1 '58. (MIRA 11:9)

1.Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im.  
Ye. O. Patona AN USSR.  
(Electric welding--Equipment and supplies)

AUTHOR: Paton, B.Ye., and Zavadskiy, V.A. 125-58-7-8/14

TITLE: A New Ignition Circuit of Ignitrons in Contact Welding  
Machines (Novaya skhema zazhiganiya ignitronov v mashinakh  
dlya kontaktnoy svarki)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 7, pp 48-51 (USSR)

ABSTRACT: A new circuit of independent ignitron ignition is suggested  
which does not require the use of lead resistances. The square  
shape of the voltage curve of the current feeding the ignitron  
igniter circuit is obtained by the use of a ferro-resonance  
circuit. This ensures a continuous magnitude and shape of  
the current pulse in the ignition circuit. The described method  
was tested with good results in butt flash welding. It is sug-  
gested that this circuit be used in other contact welding  
machines equipped with ignitron interrupters.  
There are 2 circuit diagrams, 1 oscillogram, and 1 Soviet  
reference.

ASSOCIATION: Institut elektrosvarki imeni Ye.O.Patona AN USSR (Institute  
of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

Card 1/2

A New Ignition Circuit of Ignitrons in Contact Welding Machines 125-58-7-8/14

SUBMITTED: March 28, 1958

1. Resistance welding machines---Control systems
2. Ignitrons---Circuits
3. Electric igniters---Applications

Card 2/2



ZAVADSKIY, V.A.

3(5) PLEN I BOOK EXPLANATION 307/1897  
Vassoyumy malyayoy nuchno-issledovatel'skiy geologicheskoy  
Institut.

O prikladnoy nuchy v kuznitsyakh i peramich otlozheniyakh  
Volga-Ural'skoy oblasti, shchitayemykh stoyat' na  
the Carboniferous and Permian Sediments of the Volga-Ural District  
Collection of Articles) Leningrad, Goskizdat, 1958, 283 p.  
(Series: It's study, vyp. 117) Errata slip inserted, 1,500  
copies printed.

M.: Zinaily L'vovskiy Mayin; Kuz. Ed.: G.A. Deyev; Tech. Ed.:  
I.M. Gendel'yeva.

PURPOSE: This book is intended for geologists and geochemists,  
particularly those interested in questions dealing with the origin,  
development, and structure of oil deposits.

COVERAGE: This collection of articles deal with the Carboniferous and  
Permian sediments of the Volga-Ural district and methods of de-  
termining possible petroleum source-beds. The lithologic and  
geochemical characteristics of the sediments are discussed as  
are the conditions of oil deposition. The author thanks the  
following geologists working in the Second Baku Region:  
M.M. Zinov, K.K. Ashirov, I.L. Khudiy, A.M. Melnikov,  
S.P. Yegorov, and I.A. Shpil'man. Further thanks are extended  
to Professor M.P. Dvali for his advice and encouragement. Ref-  
erences accompany each article.

#### Origin of Petroleum

- Petrova, T.A., I.P. Karpova, I.P. Kasatkina. Organic matter  
in the Upper Paleozoic Beds of the Volga-Ural Region 115  
Kotina, A.K., Ye.M. Gilyachova. Certain Characteristics of  
the Oils in the Volga-Ural Region 151  
Demukova, P.Ya., L.Y. Zakharenkova, and A.P. Kurbatova.  
The Relationship Between Vanadium and Nickel and the Com-  
ponents of the oils of the Volga-Ural Region 185  
Slakova, T.L., and M.A. Komova. The Study of Microflora in  
the Oil Deposits of the Second Baku 213  
Zavatskiy, V.A. Certain Regularities in the Distribution of  
the Oil Deposits of the Volga-Ural Region 222  
Pomer, V.M. Certain Features of the Development of the Struc-  
tural-tectonic Pattern in the Middle and the Upper Paleozoic  
of the Volga-Ural region and the Western Slope of the Ural 231

Card 3/3

#### Origin of Petroleum (Cont.)

Mayin, E.M. The possibility of outlining the oil-bearing  
areas in a cross-section of the Carboniferous and Permian  
of the Volga-Ural Region 252

AVAILABLE: Library of Congress

RM/lab  
6-22-59

SOV/125-59-12-3/18

25(1)

AUTHORS:

Paton, B.Ye. and Zavadskiy, V.A.

TITLE:

Some Peculiarities of Welding Current Control Systems with Ignitron Interrupters

PERIODICAL:

Avtomaticheskaya svarka, 1959, Nr 12, pp 22-27 (USSR)

ABSTRACT:

Peculiarities of the systems mentioned in the title are considered and the expediency is shown of analyzing the operation of these systems with the use of "control characteristics", which determine the interdependence between the welding voltage and the ignition angle of the ignitrons. The dynamic and static properties of the systems are analyzed. The conclusion is drawn that static regimes corresponding to the equilibrium of the welding current control system and the ignitron breaker are easily analyzed with the aid of the control characteristics of the welding machine and the static characteristics of the current regulator. The loss of control by the ignitrons each half-period has a substantial influence on the dynamic properties of the

Card 1/3

SOV/125-59-12-3/18

Some Peculiarities of Welding Current Control Systems with Ignitron Interrupters

system. To make an automatic control which would fully work off the disturbances in the half-period following their appearance it is necessary to use rather complicated and quick-working parts for the computing devices. During the half-period, these parts must accurately determine the necessary ignition angle of the ignitron. Sufficiently high dynamic properties of the control can be obtained by the introduction of an inertial link. The magnitude of the time constant of this link depends on the amplification coefficient of the control, the permissible mismatch and the work section of the control characteristic. There are 4 graphs.

ASSOCIATION: Ordena trudovogo krasnogo znameni Institut elektrosvarki im. Ye. O. Patona AN UkrSSR (Order of the Red Banner of Labor Institute of Electric Welding Imeni Ye. O. Paton of the AS UkrSSR).

Card 2/3

SOV/125-59-12-3/18

Some Peculiarities of Welding Current Control Systems with Ignitron  
Interrupters

SUBMITTED: October 23, 1959.

Card 3/3

ZAVADSKIY, V.A.

Data on the paleoecology of the upper Devonian brachiopods of  
the western Urals. Sbor.nauch.rab.stud. LGI no.2:9-12  
'57. (MIRA 13:4)

1. Leningradskiy ordenov Lenina i Trudovogo Krasnogo Znameni  
gornyy institut im. G.V.Plekhanova. Predstavleno kand.geologo-  
mineralog. nauk N.Ya. Spasskim.  
(Ural Mountains--Brachiopoda, Fossil)

AUTHORS: Paton, B.Ye. and Zavadskiy, V.A. SOV/125-58-12-1/13

TITLE: A Measuring Device for Circuits With an Ignitron Breaker (Izmeritel'nyy organ skhem s ignitronnym preryvatelem)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 12, pp 3-11 (USSR)

ABSTRACT: Various systems for measuring effective current values and voltages are analyzed. A circuit of a measuring device is suggested consisting of a non-linear active resistance in the form of an electronic tube and capacitance. The input voltage feeds the anode circuit of the tube, and the resistance switched in the tube grid is a variable parameter. The use of one, two or four triodes increases the admissible changes of voltage from 50 to 200 v. The advantage of the system is the possibility of changing the characteristics with the use of grid resistance. The measuring device can measure effective values of the input voltage with changes of the ignitron ignition angles from 30 to 150°. The device can be recommended for automatic control of circuits and for measuring the effective value of welding currents in contact machines.

Card 1/2      There are 8 sets of circuit diagrams and 5 graphs.

SOV/125-58-12-1/13

A Measuring Device for Circuits With an Ignitron Breaker

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (The Institute of Electric Welding imeni Ye. O. Paton, AS Ukr SSR)

SUBMITTED: October 21, 1958

Card 2/2

PATON, B.Ye.; ZAVADSKIY, V.A.

Pulse method of arc striking in shielded and manual arc welding.  
Avtem.svar.9 no.3:26-35 My-Je '56. (MLRA 9:9)

1.Ordena Trudevego Krasnogo Znameni Institut elektresvarki imeni  
Ye.O.Patona AN USSR.

(Electric welding)



1.1300

29049  
S/125/61/000/010/009/014  
D040/D112

AUTHOR: Zavadskiy, V.A.

TITLE: Seam-welding telescopic pipe joints of 1Kh18N9T steel

PERIODICAL: Avtomaticheskaya svarka, no. 10, 1961, 74-77

TEXT: Welding experiments were conducted with a modified MШНТ-50 (MShPT-50) resistance welder in view of frequent weld defects, i.e. reduced weld core or a gap at the closing point of the annular seam, occurring during the welding of thin-wall pipes of 1X18H9T (1Kh18N9T) steel with the use of a backing copper insert (Fig. 1). The cause of the defects was unequal deformation of the pipes and the formation of a gap between the pipe walls in front of the welding roller, resulting from the unequal heating of the pipes, which in turn was due to the difference in contact surface area between the outer roller and outer pipe and the inner roller and the inner pipe. Besides, the pressure exerted by the rollers was insufficient to close the gap. Calculation proves that equal contact areas of the outer and inner rollers are obtained when

Card 1/4  
3

Seam-welding telescopic...

29049  
S/125/61/000/010/009/014  
D040/D112

$$\frac{1}{R_2} - \frac{1}{R_4} = \frac{1}{R_3} + \frac{1}{R_1},$$

where  $R_1$  is the radius of the outer roller;  $R_2$  - the radius of the inner roller;  $R_3$  - the external radius of the outer pipe;  $R_4$  - the internal radius of the inner pipe (Fig. 2). The design of the new MShPT-50 welder is described and illustrated in a photograph and a cross-sectional diagram. It includes a chain drive for the outer roller, and water cooling. Welding was carried out with a  $35.5 \pm 41$  amp current in the primary winding in the transformer, 160 kg compression effort, a welding pulse time of 3T and an interval time of 10T, a welding speed of 160 mm/min, an outer roller 210 mm and an inner roller 20 mm in diameter, and a 4 mm work surface width on the rollers. The welds were sound and the depth of the core amounted to  $50 \div 70\%$  of the total thickness of the pipe walls. It is suggested to improve the ignition stability of the ignitrons by connecting an RC circuit (Fig. 8)

Card 2/4  
3

Seam-welding telescopic...

29049  
S/125/61/000/C10/009/014  
D040/D112

with a 10 ohm resistance and 6-10  $\mu$ f capacitance in parallel to the primary winding of the welding transformer. The following conclusions are drawn: (1) the diameters of the inner and outer rollers must be so chosen so as to produce equal initial contact areas between them and the inner surfaces of the pipes; (2) mechanical drive is necessary for both rollers; (3) it is advisable to use an RC circuit in the welding circuit. There are 8 figures.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvariki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton of the AS UkrSSR)

SUBMITTED: February 23, 1961

Card 3/A

3

X

ZAVADSKIY, V.A.

Seam welding of telescopic joints in 1Kh18N9T steel pipe.  
Avtom. svar. 14 no.10:74-77 0 '61. (MIRA 14:9)

1. Ordena Trudovog Krasnogo Znameni Institut elektrosvarki  
imeni Ye.O. Patona AN USSR.  
(Pipe, Steel--Welding)

ZAVADSKIY, V.V.

Using hot water for the heat supply of a petroleum refinery.  
Nefteper. i neftekhim. no.8:36-39 '64. (MIRA 17:10)

1. Sibirskiy avtomobil'no-dorozhnyy institut.

ZAVADSKIY, V.Yu.

Wave motion in an elastic inhomogeneous layered medium with  
a power law density variation and Lamé parameters. Akust.  
zhur. 10 no.1:119-122 '64. (MIRA 17:5)

1. Akusticheskiy institut AN SSSR, Moskva.

ZAVADSKIY, V.B.

Moscow circumferential highway. Cor. khoz, Mosk. 35 no.1:17-19  
Ja '61. (MIRA 14:2)

1. Glavnyy inzh.proyekta i stroitel'stva Moskovskoy kol'tsevoy  
avtomobil'noy dorogi.  
(Moscow--Roads)

ZAVADSKIY, V.B.

Moscow Ring Highway has been put into operation. Avt. dor. 26  
no.1:8-13 Ja '63. (MIRA 16:6)

1. Glavnyy inzhener stroitel'stva i avtor proyekta Moskovskoy  
kol'tsevoy avtomobil'noy dorogi.  
(Moscow--Roads)



ZAVADSKIY, V.B.

Moscow circumferential highway. Avt.dor. 19 no.11;7-9 N '56.

(MIRA 10:10)

(Moscow--Roads--Design)

ZAVADSKIY, V.B.

ZAVADSKIY, V.B., inzhener.

New circular automobile highway. Gor.khoz.Mosk.30 no.12:21-27 D '56.  
(Moscow Road construction.)

ZAVADSKIY, V.B.

Moscow circumferential highway. Transp. stroi. 10 no.9:8-12 S '60.  
(MIRA 13:9)

1. Glavnyy inzhener proyekta i stroitel'stva Moskovskoy kol'tsevoy  
avtomobil'noy dorogi.

(Moscow--Roads)

ZAVADSKIY, V.B.; RITOV, M.N.

Practical plan for the organization of work. Avt.dor. 23 no.11;  
18-20 N'60. (MIRA 13:11)  
(Moscow region--Road construction)